

WHAT IS CLAIMED:

1. A method of producing a well comprising the steps of:
 - a) positioning well fluid production tubing within a well borehole in flow communication with a well production zone;
 - b) cementing said production tubing within said well borehole above said well production zone;
 - c) purging substantially all cement from an internal bore of said production tube by fluid displacement; and
 - d) opening the internal bore of said production tube to fluid flow from said production zone by fluid displacement within said internal bore.

2. A method of completing a well comprising the steps of :
 - a) assembling a well fluid production string comprising a pressure activated cementing valve, an external casing packer, a pressure activated production valve and a plug seal operatively combined with production tubing, said plug seal being positioned between said production valve and a point of well fluid entry into said production tubing;
 - b) positioning said point of well fluid entry within said well at a desired well fluid production location;
 - c) delivering a pump-down plug into said plug seal;
 - d) increasing fluid pressure within said production tubing to inflate said external casing packer;

- e) increasing fluid pressure within said production tubing to open said pressure activated cementing valve;
- f) pumping a desired quantity of borehole cement down said tubing and through said open cementing valve;
- g) delivering a closing pump-down plug against said pressure activated cementing valve to close said cementing valve;
- h) increasing fluid pressure within said production tubing to open said production valve;
- i) displacing said closing pump-down plug from obstructing a flowpath through said production valve; and
- j) producing well fluid through said production tube.

3. A method of completing a well as described in claim 2 wherein said production string assembly further comprises a production packer positioned up-hole from said cementing valve.

4. A well completion tool comprising the combination of:

- a) a cementing valve having a cement flow channel from an internal pipe bore into a surrounding well annulus, said flow channel being opened by a fluid pressure displaced first sleeve element and closed by a fluid pressure displaced second sleeve element;
- b) a fluid pressure engaged well annulus barrier surrounding said pipe bore and displaced along said pipe bore from said cementing valve;

- 8 c) a production valve positioned along said pipe bore from said annulus
9 barrier in a direction opposite from said cementing valve, said
10 production valve having a rupture opened flow channel from said
11 surrounding well annulus into said pipe bore; and
12 d) a pipe bore a plug seat positioned along said pipe bore from said
13 production valve in a direction opposite from said annulus barrier.

1 5. A well completion tool as described in claim 4 wherein said cementing valve,
2 well annulus barrier, production valve and plug seal are serially aligned toward the
3 well bottom.

1 6. A well completion tool as described in claim 4 wherein said combination
2 further comprises a production packer positioned along said pipe bore from said
3 cementing valve in a direction opposite from said annular barrier.

1 7. A well completion tool as described by claim 4 wherein said cementing valve
2 further comprises a closure plug seat positioned in said pipe bore along a direction
3 from said cement flow channel opposite of said well annulus barrier.

1 8. A well production string comprising a production tube having an internal flow
2 bore, said production tube suspending the operative assembly of:

- 3 a) a cementing valve having a cement flow channel from an internal flow

- bore into a surrounding well annulus, said flow channel being opened by a fluid pressure displaced first sleeve element and closed by a fluid pressure displace second sleeve element;
- b) a fluid pressure expanded well annulus barrier surrounding said production tube and displaced along said production tube from said cementing valve;
- c) a production valve positioned along said production tube from said annulus barrier in a direction opposite from said cementing valve, said production valve having a rupture opened flow channel from said surrounding well annulus into internal flow bore; and
- d) a pipe bore plug seat positioned along said pipe bore from said production valve in a direction opposite from said annulus barrier.

9. A well production string as described in claim 8 further comprising a production packer positioned along said flow bore from said cementing valve in a direction opposite from said annulus barrier.

10. A well production string as described in claim 8 further comprising a well fluid production screen operatively positioned along said flow bore from said plug seat in a direction opposite from said production valve.

11. A well production string as described by claims 8 wherein said production tube further comprises a closure plug seat positioned in said internal flow bore from

3 said cement flow in a direction opposite from said annulus barrier.